

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

I. Amendments to the Claims

Claims 21 and 41 have been amended to distinguish the claimed invention from the references identified in the rejections discussed below. Further, new claims 42-44 have been added to recite a read-only optical recording medium, and a method of recording data onto the read-only optical recording medium.

II. 35 U.S.C. § 112, First Paragraph Rejection

Claims 21 and 41 were rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. Specifically, claims 21 and 41 were rejected for reciting “the track pitch of the row of pits in said sub-information area is different from a track pitch of the row of pits in said main information area,” for which there is allegedly no supporting disclosure in the original specification. This rejection is respectfully traversed for the following reasons.

As pointed out on page 3 of the Office Action, the specification discloses that it is preferable of the track pitch of a row of pits in the main-information area to be equal to the track pitch of a row of pits or a groove in the BCA (sub-information) area.

Although the specification indicates that it is preferable for the track pitch of the row of pits to be equal in the main-information area and the sub-information area, the specification (i)

does not specifically prohibit the track pitch of the row of pits in the sub-information area and the row of pits in the main information area from being different, and (ii) refers to the possibility of the track pitch being different (see page 35 of specification, which states “*if the track pitch of a row of pits or a guide groove in the BCA area is largely different from the track pitch of a row of pits in the main-information area*”).

Furthermore, Applicants note that originally filed claim 7 includes limitations that allow the track pitch of the sub-information area to be different from the track pitch of the main-information area (i.e., according to claim 7, the track pitch of the sub-information area ranges from 0.24 μm to 0.45 μm wide and the track pitch of the main-information area ranges from 0.24 μm to 0.43 μm).

Therefore, in view of the above, it is respectfully submitted that, since the specification refers to the possibility of the track pitches of the main-information area and the sub-information area being different and does not prohibit the track pitches from being different, there is in fact support for the above-mentioned limitations recited in claims 21 and 41. As a result, withdrawal of this rejection is respectfully requested.

III. 35 U.S.C. § 103(a) Rejection

Claims 21 and 41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Hiroaki et al. (JP 2001-229542) and Miyagawa (U.S. 7,142,496). As mentioned above, claim 21 has been amended to clarify features of the claimed invention and to distinguish the claimed invention from the above-mentioned references. Therefore, it is respectfully submitted that the above-mentioned rejection is no longer applicable to independent claim 21

and claim 41 that depends therefrom for the following reasons.

Amended independent claim 21 recites an optical recording medium including a main-information area and a sub-information area that stores medium identification information. Moreover, claim 21 recites that the optical recording medium includes a row of pits formed in the sub-information area, wherein a track pitch of the row of pits formed in the sub-information area is at least 0.24 μm wide and at most 0.45 μm wide. In addition, claim 21 recites that the optical recording medium includes a row of pits formed in the main-information area, wherein a track pitch of the row of pits formed in the main-information area is at least 0.24 μm wide and at most 0.43 μm wide. Further, claim 21 recites that the track pitch of the row of pits in the sub-information area is different from the track pitch of the row of pits in the main information area. Hiroaki and Miyagawa, or any combination thereof fails to disclose or suggest the above-mentioned distinguishing features as required by claim 21, for the following reasons.

Initially, it is noted that the above-mentioned rejection states that, because Miyagawa teaches using a 0.32 μm pitch and teaches that a shortest recording mark pitch is 0.20 μm , it would have been obvious to one of ordinary skill in the art to modify the recording medium of Hiroaki so that the recording medium of Hiroaki would have the pitch and jitter value suggested by Miyagawa and states that that such a modification would have been obvious because of the benefit of using a shortened track pitch to improve the recording density, as taught by Miyagawa.

The Applicants disagree with the above-mentioned position set forth in the rejection for the following reasons.

Applicants note that it would not have been obvious to one of ordinary skill in the art to

require the track pitch of the main-information area and the track pitch sub-information area to be different, and to set the track pitch of the sub-information area to at least 0.24 μm wide and at most 0.45 μm wide, because a person of ordinary skill in the art would not recognize the specific problems in an optical recording medium which has a plurality of reflection-film removed areas formed by partially removing a metal reflection film.

Specifically, Applicants note that the present invention was made based on the knowledge of the inventors that the metal reflection film, which is formed on the included surface part 4 in the row of pits, becomes thinner than the film thickness of the metal reflection film that is formed on each pit-bottom part 5. Therefore, a quantity of heat that is conducted smaller and a heat capacity of the metal reflection film necessary for the film temperature to reach the melting point becomes smaller (see page 24, line 12 to page 26, line 25 of the revised specification). As a result, a person of ordinary skill in the art who does not understand or know of the above-mentioned problem, would not understand to set the track pitch of the sub-information area to be different than the track pitch of the main-information area, such that the track pitch of the sub-information area is at least 0.24 μm wide and at most 0.45 μm wide.

Additionally, the Applicants note that the rejection states that setting the track pitch of the sub-information area to at least 0.24 μm wide and at most 0.45 μm wide would have been obvious because of the benefit of a shortened pitch in improving density as taught by Miyagawa. However, it is respectfully submitted that Miyagawa does not suggest setting the track pitch of the sub-information area to at least 0.24 μm wide and at most 0.45 μm wide in order to improve the density of the sub-information area, because Miyagawa is related to recording information on the main-information area, does not discuss the sub-information area which is for storing the

medium identification information, as required by claim 21.

In addition, if Miyagawa were to teach shortening the track pitch in order to improve the recording density, a person of ordinary skill in the art who follows the teaching of Miyagawa would shorten the track pitch of the main-information area as much as possible for the improvement of the recording density so as to make the track pitch of the sub-information area remain consistent with that of the main information area. Accordingly, Miyagawa does not teach that the track pitch of the sub-information area is different from that of the main information area, as required by claim 21.

In summary, regarding the rejection of claim 21, it would not have been obvious to one of ordinary skill in the art to (i) set the track pitch of the main-information area and the sub-information area to be different, (ii) set the track pitch of the sub-information area to at least 0.24 μm wide and at most 0.45 μm wide, and (iii) set the track pitch of the main-information area to at least 0.24 μm wide and at most 0.43 μm wide, as required by claim 21, because neither Hiroaki nor Miyagawa recognize the specific problems in an optical recording medium which has a plurality of reflection-film removed areas formed by partially removing a metal reflection film.

Furthermore, it is noted that the rejection set forth in the previously mailed Final Office Action was withdrawn because the Remarks filed on September 11, 2008, which insisted that Toshiyuki teaches only that the main information recording area which has a track pitch of 0.32 μm , were found to be persuasive.

It is noted that Miyagawa teaches that only the main information recording area has a track pitch of 0.32 μm . Thus, the teaching of Miyagawa is similar to the teaching of Toshiyuki, which admittedly cannot be relied upon for disclosing or suggesting the invention of claim 21.

Therefore, for the same reasons described in the Amendment filed on September 11, 2008, it is respectfully submitted that the combination of Hiroaki and Miyagawa also fails to disclose or suggest that the track pitch of the sub-information area is at least 0.24 μm and at most 0.45 μm and that the track pitch of the main-information area is at least 0.24 μm and at most 0.43 μm as recited in claim 21.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 21 and claim 41 that depends therefrom would not have been obvious or result from any combination of Hiroaki and Miyagawa.

Additionally, there is no disclosure or suggestion in Hiroaki and Miyagawa or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Hiroaki and Miyagawa to obtain the invention of independent claim 21. Accordingly, it is respectfully submitted that independent claim 21 and claim 41 that depends therefrom are clearly allowable over the prior art of record.

IV. Discussion of New Claims 42-44

New claims 42-44 recite limitations that have not been previously considered by the Examiner and that are not disclosed or suggested by the Miyagawa and Hiroaki references. Therefore, the Applicants submit that the 35 U.S.C. § 103(a) rejection of claims 21 and 41 is not applicable to new claims 42-44. However, Applicants have provided comments below regarding the differences between new independent claim 42 and the Miyagawa and Hiroaki references.

New claim 42 recites A read-only optical recording medium including a main-information area in which a metal reflection film is formed on a substrate where a row of pits is

formed as main data, and in which information is to be reproduced by irradiating the metal reflection film with a beam of light, including a sub-information area in which medium identification information is to be recorded by removing the metal reflection film partially so as to form a plurality of reflection-film removed areas, wherein the medium identification information is to be used to identify the optical recording medium individually, and includes a row of pits formed on the substrate in the sub-information area. Further, claim 42 recites that a track pitch of the row of pits formed on the substrate in the sub-information area is at least 0.24 μm wide and at most 0.45 μm wide, and recites that the sub-information area is concentrically located closer to a center of the read-only optical recording medium than the main information area.

As discussed above, the above-mentioned 35 U.S.C. § 103(a) rejection of claim 21 states that (1) it would have been obvious to modify the track pitch of the sub-information area in Hiroaki as taught by Miyagawa so that the recording medium of Hiroaki would have the track pitch (0.32 μm) and jitter value suggested by Miyagawa, and (2) it would be obvious to modify the track pitch of the sub-information area in Hiroaki as taught by Miyagawa, considering the benefit of having a shortened track pitch to improve recording density of the recording medium. The above-mentioned points (1) and (2) are not applicable to the limitations required by new claim 42 for the following reasons.

Regarding (1), Applicants note that the structure of the recording medium of Miyagawa cannot be limited to a read-only recording medium because the object of Miyagawa cannot be achieved using a read-only recording medium. Therefore the structure of the recording medium of Miyagawa cannot be combined with (i.e., is incompatible with) Hiroaki to achieve the read-

only optical recording medium as recited in claim 42. This concept is described in detail below.

Specifically, Miyagawa is directed to an optical recording medium having an information recording layer which causes a phase change by heat. Specifically, the optical recording medium of Miyagawa has a structure such that a recording pulse is irradiated onto a phase-changing film thereof in order to record information (see Fig. 3). Further, in the recording medium of Miyagawa, a phase-changeable information recording layer is formed on a substrate where a track is formed in advance.

Furthermore, col. 10, lines 45-54 of Miyagawa state that “the track pitch is 0.32 μm ” and “the permissible value of jitter in the DVD standard is 9% or less.” However, Applicants note that it is not always the case that the track pitch of 0.32 μm secures an intended jitter value. Specifically, Applicants note that col. 11, lines 27-38 of Miyagawa teach that a jitter value equal to or lower than a predetermined value is obtained depending on the shape of a recording pulse (recording waveform), and there is a case that a jitter value equal to or lower than the predetermined value is not obtained, even if the track pitch is set to 0.32 μm .

Therefore, as described above, according to Miyagawa, the track pitch of 0.32 μm is an environmental condition, and it is not always the case that the intended jitter value is obtained if the track pitch is set to 0.32 μm . In other words, Miyagawa requires information to be recorded in an information recording layer using a phase change according to a predetermined recording waveform so that the intended jitter value can be obtained. Therefore, if the recording medium of Miyagawa were limited to a read-only recording medium incapable of recording new information, it would be impossible to achieve the phase change according to the predetermined recording waveform, as required by Miyagawa.

As a result, the Applicants note that the structure of the recording medium required by Miyagawa is incompatible with the structure of the recording medium required by Hiroaki, because, as mentioned above, the structure of Miyagawa cannot be limited to a read-only recording medium, as required by claim 42, and the structure of the recording medium of Hiroaki requires the sub-information area where a barcode pattern representing identification information to be a read-only area where information is not recordable by a phase change of an information recording layer.

Regarding (2), Applicants note that it would not have been obvious to modify the track pitch of the sub-information area in Hiroaki in view of Miyagawa, because Miyagawa teaches that the track pitch of the main-information area is shortened to improve the storage capacity of the main-information. It is respectfully submitted that the concept of increasing the storage capacity of the main-information area is completely different than a concept of changing the track pitch of the sub-information area in which medium identification information is to be recorded, such that a track pitch of the row of pits formed on the substrate in the sub-information area is at least 0.24 μm wide and at most 0.45 μm wide, as required by claim 42.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 42 and claims 43 and 44 that depend therefrom would not have been obvious or result from any combination of Hiroaki and Miyagawa.

Additionally, there is no disclosure or suggestion in Hiroaki and Miyagawa or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Hiroaki and Miyagawa to obtain the invention of independent claim 42. Accordingly, it is respectfully submitted that independent claim 42 and claims 43 and 44 that depend therefrom are

clearly allowable over the prior art of record.

III. Conclusion

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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August 6, 2009